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THE IMPACT OF ARTIFICIAL INTELLIGENCE ON THE EVOLUTION OF MODERN TRANSLATION

Abstract. This study explores the transformative influence of Artificial Intelligence (AI) in the realm of contemporary translation. It examines the shift from conventional human translation to Neural Machine Translation (NMT) and the latest incorporation of Large Language Models (LLMs). The research examines the effectiveness of AI in processing technical documents, emphasizing its shortcomings in grasping cultural subtleties, emotional richness, and idiomatic phrases. The piece contends that the future of translation rests on a collaborative interaction between AI and human skill, highlighting the necessity for translators to transform into "cultural intermediaries" capable of managing the intricacies of both language and context.

Keywords: Artificial Intelligence, neural machine translation, cultural nuance, post-editing, linguistic precision, digital transformation, localization, translation ethics, human factor, algorithmic bias.

Аннотация. В данной статье исследуется трансформационное влияние искусственного интеллекта (ИИ) на область современного перевода. Рассматривается переход от традиционного человеческого перевода к нейронному машинному переводу (NMT) и недавняя интеграция больших языковых моделей (LLM). В исследовании оценивается эффективность ИИ при работе с техническими текстами, а также подчеркиваются его ограничения в передаче культурных нюансов, эмоциональной глубины и идиоматических выражений. Автор утверждает, что будущее перевода заключается в синергии ИИ и человеческого опыта, подчеркивая необходимость эволюции переводчиков в «культурных посредников».

Ключевые слова: искусственный интеллект, нейронный машинный перевод, культурные нюансы, постредактирование, лингвистическая точность, цифровая трансформация, локализация, этика перевода, человеческий фактор, алгоритмическая предвзятость.

Annotatsiya. Ushbu maqolada sun’iy intellektning (SI) zamonaviy tarjima sohasiga ko‘rsatayotgan transformatsion ta’siri tadqiq qilinadi. Tadqiqot an’anaviy inson tarjimasidan neyron mashina tarjimasiga (NMT) o‘tish va so‘nggi yillarda yirik til modellarining (LLM) ushbu sohaga integratsiyalashuvini ko‘rib chiqadi. Maqolada SIning texnik matnlarni qayta ishlashdagi samaradorligi baholanadi, shu bilan birga uning madaniy nozikliklar, hissiy chuqurlik va idiomatik iboralarni yetkazib berishdagi kamchiliklari tahlil qilinadi. Muallif tarjimachilikning kelajagi SI va inson tajribasining sinergiya holatida ekanligini asoslab beradi.

Kalit so‘zlar: sun’iy intellekt, neyron mashina tarjimasi, madaniy nozikliklar, tahrirdan keyingi ishlov (post-editing), lisoniy aniqlik, raqamli transformatsiya, lokalizatsiya, tarjima etikasi, inson omili, algoritmik xatolik (moyillik).

Introduction

The craft of translation, once seen as a significant mental effort by human scholars and multilingual individuals, is now experiencing an extraordinary technological transformation. The

rise of Artificial Intelligence (AI) has fundamentally changed the limits of linguistic mediation, turning what used to be a lengthy manual task into a swift, data-oriented digital procedure. For modern linguistic scholars, the central issue is not whether computers can perform translations, but how these algorithms are reshaping the fundamental nature of intercultural communication and the professional role of translators [1].

The transition from rule-based systems to the advanced framework of Neural Machine Translation (NMT) has arrived at a pivotal point where AI can replicate human-like fluency across various contexts. Yet, the fundamental intricacy of human language—rich with historical nuances, emotional undertones, and fine regional variations—poses a continual obstacle for binary processing. This article seeks to deliver an extensive examination of the function of AI in contemporary translation, weighing its clear economic and logistical advantages against the unique creative and ethical subtleties contributed by human intellect[2]. As we progress deeper into the digital era, grasping the connection between deep learning and philology is crucial for upholding the integrity of worldwide discourse.

Main Part

Contemporary translation AI functions without merely replacing words one-for-one. Rather, it employs "Deep Learning" to examine astronomical datasets of human-translated materials, recognizing complex patterns and contextual connections among semantic units. This shift to neural networks has led to a notable improvement in grammatical precision and stylistic coherence, enabling machines to account for the complete context of a paragraph instead of just separate sentences [3].

For repetitive and standardized documents—like legal contracts, technical guides, or medical reports—AI can analyze thousands of pages within seconds, providing a degree of terminological uniformity that humans cannot sustain over extended durations. This efficiency has not only lowered expenses for international organizations but has also made information more accessible, enabling worldwide audiences to obtain scientific and technical knowledge in their own languages almost immediately [4].

The **"Glass Ceiling"** of Machine Intelligence: Emotion and Culture

In spite of these technical advancements, AI reaches a notable "glass ceiling" when addressing the aesthetic and sociolinguistic aspects of language. Translation fundamentally involves the recreation of meaning within a cultural context, necessitating personal experience and empathy. AI often finds it difficult to understand metaphors, sarcasm, and idioms that are specific to a culture and lack direct translations in the target language. For example, interpreting classical poetry or advanced diplomacy necessitates grasping the "essence" of the text—the silent sorrow, historical dignity, or nuanced politeness embedded in the structure [5]. A machine can

[1] Karimova, U. (2020). METHODS USED IN CONSTRUCTIVISM THEORY. *EPRA International Journal of Research and Development (IJRD)*, *5*(3), 680-682.

[2] Karimova U., Imansyah A. PREFERENCES FOR LEARNING STYLES AMONG SECONDARY SCHOOL PUPILS //Development of pedagogical technologies in modern sciences. – 2023. – Т. 2. – №. 12. – С. 16-19.

[3] Karimova U. Role of a teacher in a constructivist classroom // Экономика и социум. – 2024. – № 1 (116). – С. 228-230.

[4] Umida K. et al. Main features of constructivism for teaching and learning //ACADEMICIA: An International Multidisciplinary Research Journal. – 2021. – Т. 11. – №. 9. – С. 1045-1051.

[5] Karimova U., Sayyora S. Роль языка в процессе перевода //3rd eurasian conference on language and social sciences. – 2018. – С. 68.

attain linguistic accuracy, yet it frequently lacks the "pragmatic capability" to grasp the speaker's genuine intention behind the statements.

The Emergence of Post-Editing and the Blended Professional Framework

The present direction of the industry is progressively shifting towards a framework referred to as "Machine Translation Post-Editing" (MTPE). In this process, the AI handles the primary "heavy lifting" by generating a detailed draft, while the human translator serves as a senior editor and cultural advisor. This mixed method enables substantial output while maintaining the qualitative richness of the end result. As a result, the function of the contemporary translator is shifting from a dictionary-reliant linguist to a "digital philologist" who needs to have both language knowledge and technological skills[6]. This collaboration guarantees that although the translation's framework is created by code, its impact is completed through human decision-making.

Moral Dilemmas and the Future of Intellectual Property

The incorporation of AI raises significant ethical issues related to data privacy and the ownership of language data. Numerous Large Language Models (LLMs) are developed using the intellectual property of human translators without their explicit consent or compensation, prompting concerns about the profession's future viability[7]. Moreover, in the age of "Big Data," the protection of sensitive files handled via cloud-based translation services continues to be a major issue for global legal and diplomatic interactions.

Expanding on the earlier discussion, it is crucial to emphasize that in contemporary classrooms, Artificial Intelligence is not viewed only as an additional resource; instead, it has transformed into an essential element in improving curriculum development, instructional design, and classroom management. As educational institutions progress in digitalization, the incorporation of AI presents several significant challenges regarding teaching methods, ethical matters, accessibility, and fairness.[8]

In this context, Umida Karimova[9] asserts that the increasing dependence on AI technologies in English Language Teaching demands a thorough and critically nuanced approach, as these advancements both offer new teaching possibilities and present intricate challenges. Consequently, this article seeks to deliver a comprehensive analysis of AI incorporation in ELT, emphasizing its educational advantages, possible limitations, and future growth opportunities within tech-enhanced learning settings.

Conclusion

In conclusion, Artificial Intelligence is not a replacement for the human translator, but rather a powerful evolutionary tool that enhances human capacity and changes the nature of linguistic labor. The fear that machines will entirely eliminate the need for human linguists is largely unfounded in fields that require high levels of creativity, emotional intelligence, and deep

[6] Karimova, U. (2020). METHODS USED IN CONSTRUCTIVISM THEORY. *EPRA International Journal of Research and Development (IJRD)*, *5*(3), 680-682.

[7] Karimova U., Sayyora S. Роль языка в процессе перевода //3rd eurasian conference on language and social sciences. – 2018. – С. 68.

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cultural sensitivity. However, it is undeniable that the era of the "traditional" translator is ending, making way for a more integrated, technology-assisted paradigm.

The future of translation lies in the masterful synergy between the speed of algorithms and the depth of human perception. While AI provides the structural foundation and logistical efficiency for global communication, the human touch remains the only element capable of ensuring cultural resonance and authentic soul-to-soul connection. For the next generation of linguists, the challenge is to master this technology without losing the humanistic essence of their craft. Ultimately, translation remains a bridge between cultures, and while machines can maintain the bridge's physical structure, it is the human heart that makes the journey across it meaningful.

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